REMARKS

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being obvious over Fera (U.S. Patent Number 6,405,147). Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fera in view of Becker, *et al.* (U.S. Patent Number 5,929,628). Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson in view of Becker, *et al.*, and further in view of Dieterich. In view of the following remarks, the rejections are respectfully traversed, and reconsideration of the rejections is requested.

In the present invention as claimed in claims 1 and 2, a filter characteristic measuring method includes generating an impulse signal, applying the impulse signal to a DUT having an analog filter through a digital channel, and measuring a gain of the analog filter in the DUT and a frequency characteristic by using an output of the analog filter.

In the present invention as claimed in claim 3, an analog filter characteristic method includes applying an impulse signal to an equalizing filter by using a digital channel of an automatic tester, and then obtaining an output response of the equalizing filter.

In the present invention as claimed in claims 4-6, a system for measuring a characteristic of a filter in a DUT employing an analog filter includes a digital channel that provides an impulse signal without applying a sine wave to the analog filter of the DUT.

Fera discloses that, by applying measurement methods of a system 200, computed finite impulse response (FIR) coefficients used for an equalizer as well as plotted data, both before equalization and after equalization, can be obtained. The system 200 includes a stimulus waveform generator 20 that produces an analog stimulus waveform or signal 21. In a first embodiment, the stimulus waveform generator 20a is implemented using discrete analog components. In a second embodiment, an arbitrary waveform generator 40 is used in which the signal is fed through a digital-to-analog filter prior to outputting the analog stimulus waveform 21. In a third embodiment, (see Fera column 12, lines 42-52), the stimulus waveform generator is implemented with partly digital and partly analog components in which a first digital-to-analog converter generates a reference frequency stimulus signal, a second digital-to-analog converter generates a modulated variable frequency stimulus signal and an analog signal combiner

combines the resulting analog signals prior to outputting the analog stimulus waveform 21. The analog stimulus waveform 21 is applied to an analog input port of a device under test (DUT) 22.

Fera fails to teach or suggest a filter characteristic measuring method that includes applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2. The Office Action refers to the waveform generator 20 of Fera as the claimed digital channel. However, in Fera, the stimulus waveform generators of the first, second and third embodiments are analog channels that apply the analog stimulus waveform 21 to the analog input port of the DUT 22 through an analog channel. Therefore, in Fera, the analog stimulus waveform 21 is not applied to the DUT 22 through a digital channel (see Fera, column 7, lines 49-60; column 9, lines 3-17; column 11, line 65 through column 12, line 41; column 12, lines 42-50). In Fera, in the first embodiment, the stimulus waveform generator 20a is implemented using discrete analog components. In the second embodiment, analog stimulus waveform 21 is fed through a digital-to-analog filter before being applied to the DUT 22. In the third embodiment, the analog stimulus waveform 21 is fed through the first digital-to-analog converter, the second digital-to-analog converter, and the analog signal combiner prior to being applied to the DUT 22. Therefore, in the first, second and third embodiments, the analog stimulus waveform 21 is applied to DUT 22 through an analog channel, not a digital channel. In Fera, the measuring methods of the system 200, including applying analog stimulus waveform 21 to the analog input port of the DUT 22, are used to obtain FIR coefficients used for an equalizer as well as plotted data, both before equalization and after equalization.

Fera further fails to teach or suggest an analog filter characteristic measuring method that includes applying an impulse signal to an equalizing filter by using a digital channel of an automatic tester, as claimed in claim 3. Instead, in Fera, the stimulus waveform generators of the first, second and third embodiments are analog channels that apply the analog stimulus waveform 21 to the analog input port of the DUT 22 through an analog channel, therefore the analog stimulus waveform 21 is not applied to the DUT 22 through a digital channel, as discussed above with regard to claim 1.

Fera fails to teach or suggest elements of the invention set forth in claims 1-3.

Specifically, Fera fails to teach or suggest a filter characteristic measuring method that includes applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2, and an analog filter characteristic measuring method that includes applying an impulse signal to an equalizing filter by using a digital channel of an automatic tester, as claimed in claim 3. Therefore, it is believed that the claims are allowable over the cited reference, and reconsideration of the rejections of claims 1-3 under 35 U.S.C. 103(a) as being obvious over Fera, is respectfully requested.

Fera further fails to teach or suggest a system for measuring a characteristic of a filter in a DUT employing an analog filter that includes a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6. Instead, in Fera, the stimulus waveform generators of the first, second and third embodiments are analog channels that apply the analog stimulus waveform 21 to the analog input port of the DUT 22 through an analog channel, therefore the analog stimulus waveform 21 is not applied to the DUT 22 through a digital channel, as discussed above with regard to claim 1. The measuring methods of the system 200, including applying analog stimulus waveform 21 to the analog input port of the DUT 22, are used to obtain FIR coefficients used for an equalizer as well as plotted data, both before equalization and after equalization.

Becker, *et al.* is cited in the Office Action as disclosing a controller 206 for controlling the digital channel 212 and the digitizer 220. Becker, *et al.* fails to teach or suggest a characteristic of a filter in a DUT employing an analog filter that includes a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6.

Fera and Becker, *et al.* fail to teach or suggest elements of the invention set forth in claims 4-6. Specifically, Eriksson and Becker, *et al.* fail to teach or suggest a characteristic of a filter in a DUT employing an analog filter that includes a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6. Accordingly, there is no combination of the references which would provide such teaching or suggestion. Neither of the references, taken alone or in combination, teaches or suggests the

invention set forth in claims 4-6. Therefore, it is believed that claims 4-6 are allowable over the cited references, and reconsideration of the rejections of claims 4-6 under 35 U.S.C. § 103(a) based on Fera and Becker, *et al.*, is respectfully requested.

In view of the foregoing remarks, it is believed that all claims pending in the application are in condition for allowance, and such allowance is respectfully solicited. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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